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Attorney Docket: 012.P10007

JUL 13 2006

**REMARKS**

Claims 2, 4-17 and 19-31 are pending the above-referenced patent application. In this response, no claims have been added, cancelled or amended.

**Claim Rejections – 35 U.S.C §103(a)**

The Examiner has rejected claims 2, 4-17 and 19-31 under 35 U.S.C. 103(a) as being unpatentable over Grisamore (U.S. Patent No. 6,535,901, hereinafter "Grisamore"); and has rejected claims 2, 4-17 and 19-31 under 35 U.S.C. 103(a) as being unpatentable over Costa (U.S. Patent No. 5,935,201, hereinafter "Costa"). These rejections are respectfully traversed. Reconsideration of the above-referenced patent application in view of the following remarks and foregoing amendments is respectfully requested.

**Grisamore****1. Lack of motivation to modify****2. No reasonable expectation of success****3. Failure to teach all limitations**

It is noted that in order to establish *prima facie* obviousness there must be some suggestion or motivation to modify or combine reference teachings, and the modification or combination, if successful, must teach or suggest all of the claim limitations. As stated in the Manual for Patent Examining Procedure (MPEP), § 2142/2143, "To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." It

is respectfully submitted that the cited reference does not meet these criteria. For example, there is no suggestion or motivation to modify the teachings of Grisamore, there is no reasonable expectation of success in making a successful modification of Grisamore, and Grisamore, even if successfully modified, would still not teach or suggest all the claim limitations.

As just an example, the Examiner has made no showing of a motivation to modify Grisamore. As stated in *In re Kotzab*, 208 F.3d 1352, 54 USPQ2d 1308 (Fed. Cir. 2000), "Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference." It is respectfully submitted that the Examiner has not provided the requisite showing of a suggestion or motivation to modify Grisamore, which is directed toward a fast multiply accumulator. Grisamore appears to describe passing partial products from a partial product generator to a reduction tree module, and passing and subsequently retrieving carry terms from a memory device. (col. 2:63-3:8) Grisamore does not teach or suggest at least "a Wallace-architecture of full-adders to receive at least a portion of the one or more groups of three bits, half-adders to receive at least a portion of the one or more groups of two bits, and associated registers to receive at least a portion of the one or more groups of one bit", as recited in claim 2. For example, Grisamore teaches a reduction tree, which serves as a single pipeline stage. In the reduction tree, of Grisamore, partial products are fed into the reduction tree to produce current resultants, which then stored in memory, and subsequently fed back into the reduction tree in a "next cycle". (col 3:2 – col 3:7). There is no motivation to modify the teachings of Grisamore to include registers, as inclusion of registers in the teachings of Grisamore would result in a non-functional modification of Grisamore.

Further, there is no motivation to modify Grisamore because Grisamore appears to teach away from any implementation employing registers in the reduction tree. For example, the reduction tree of Grisamore would be non-functional without receiving the current resultants stored in memory, and the first and second preceding resultant, provided by the feedback portion of Grisamore. As stated in *In re Gurley*, "27 F.3d 551 31 USPQ2d 1130 (Fed. Cir. 1994), "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by applicant."

It is respectfully submitted that this standard applies here. One of ordinary skill would "be led in a direction divergent from the path that was taken by applicant" when referring to Grisamore. As just an example, inclusion of registers in the teachings of Grisamore would result in a non-functional modification of Grisamore. Therefore, one skilled in the art would not be motivated to employ registers if modifying Grisamore, but would be led in a path divergent from the path taken in the rejected claims.

Additionally, because the modification alleged by the Examiner would result in a non-functional modification, there is no reasonable expectation of success. As stated in *Noelle v. Lederman*, 355 F.3d 1343, 69 USPQ2d 1508 (Fed. Cir. 2004), "[A] proper analysis under § 103 requires, *inter alia*, consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success" It is respectfully submitted that this standard has not been met. Grisamore would not suggest to those skilled in the art to modify Grisamore to produce a non-functional modification of Grisamore. Additionally, it follows that no reasonable expectation of success may be found in making a non-functional modification of Grisamore.

Further, it is noted that the Examiner concedes that Grisamore is lacking at least one element of the rejected claims. According to the Examiner, "It is noted that Grisamore does not teach registers in figure 5. However, Grisamore discloses in col 1, lines 33-40 that it is known in the art to use registers at optimal points in a multiplier to enable pipelined processing which provides a high through put multiply accumulate circuit." It is respectfully submitted that for at least the reasons presented above, it would not have been obvious to modify Grisamore to include the claim elements conceded by the Examiner as lacking from Grisamore.

In conclusion, it is respectfully submitted that for at least the reasons presented above, a *prima facie* case of obviousness under section 103 of the patent statute has not been made. For example, there is no suggestion or motivation to modify the teachings of Grisamore, there is no reasonable expectation of success in making a successful modification of Grisamore, and Grisamore, even if successfully modified, would still not teach or suggest all the claim limitations. It is noted that many

other bases for traversing the rejection could be provided, but Assignee believes that the ground discussed above is sufficient. It is, therefore, respectfully submitted that the rejected claims are in a condition for allowance, and it is respectfully requested that the Examiner withdraw the rejection of claim 2.

Claims 4-16 depend from and include all limitations of claim 2. Therefore, it is respectfully submitted that these claims are in a condition for allowance on at least the same basis. Claims 17 and 19-31 contain limitations similar to claim 2, and are in a condition for allowance for at least the same reasons as claim 2.

### **Costa**

#### **1. Lack of motivation to modify**

#### **2. No reasonable expectation of success**

#### **3. Failure to teach all limitations**

It is respectfully submitted that Costa fails to meet the criteria to establish *prima facie* obviousness, as set forth above. For example, there is no suggestion or motivation to modify the teachings of Costa, there is no reasonable expectation of success in making a successful modification of Costa, and Costa, even if successfully modified, would still not teach or suggest all the claim limitations.

The Examiner concedes that Costa is lacking at least one element of the rejected claims. According to the Examiner, "It is noted that Costa et al does not teach registers in the Wallace-architecture. However, since it is known in the art to use registers at optimal points in a multiplier to enable pipelined processing which provides a high through put multiply circuit, it would have been obvious to a person of ordinary skill in the art to provide the Wallace-architecture of Costa et al. with registers at optimal points in the architecture to enable pipelined processing in order to increase the through put of circuit." However, Costa describes a multiplier circuit to produce a final sum of partial products by use of a final adder, and there is no teaching or suggestion Costa of at least "a Wallace-architecture of full-adders to receive at least a portion of the one or more groups of three bits, half-

adders to receive at least a portion of the one or more groups of two bits, and associated registers to receive at least a portion of the one or more groups of one bit", as recited in claim 2. In Costa, a multiplier circuit is described wherein input terms are combined, and partial products are generated (col 7: 39 – col 8:8 and Fig. 1). The partial products are passed to a combinatorial network (col 9:29-col 9:54 and Fig. 7) which performs the final adding of the partial products.

Additionally, the Examiner has made no showing of a suggestion or motivation to modify Costa. Costa describes a multiplier circuit to produce a final sum of partial products by use of a final adder, and any implementation of Costa that utilized registers as recited in the rejected claims would produce a non-functional modification of Costa. Therefore, one skilled in the art would not be motivated to produce a non-functional modification of Costa. Additionally, no motivation is found to modify Costa because Costa, in fact, appears to teach away from any implementation employing registers in the multiplier circuit. In Costa, the multiplier circuit depends on passing the partial products to a combinatorial network for final adding. Therefore, any implementation of Costa that utilized registers as recited in the rejected claims would produce a non-functional modification of Costa. Therefore, there is no suggestion or motivation found within Costa to modify the teachings of Costa. Additionally, even if Costa were successfully modified, although assignee takes the position that it could not be successfully modified, any resultant modification would still not include at least "a Wallace-architecture of full-adders to receive at least a portion of the one or more groups of three bits, half-adders to receive at least a portion of the one or more groups of two bits, and associated registers to receive at least a portion of the one or more groups of one bit", as recited in claim 2. Additionally, because the modification alleged by the Examiner would result in a non-functional modification, there is no reasonable expectation of success. Costa would not suggest to those skilled in the art to modify Costa to produce a non-functional modification.

It is respectfully submitted, therefore, that for at least the reasons presented above, a *prima facie* case of obviousness under section 103 of the patent statute has not been made. For example, there is no suggestion or motivation to modify the teachings of Costa, there is no reasonable expectation of success in making a successful modification of Costa, and Costa, even if successfully

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modified, would still not teach or suggest all the claim limitations. It is noted that many other bases for traversing the rejection could be provided, but Assignee believes that the ground discussed above is sufficient. It is, therefore, respectfully submitted that the rejected claims are in a condition for allowance, and it is respectfully requested that the Examiner withdraw the rejection of claim 2.

Claims 4-16 depend from and include all limitations of claim 2. Therefore, it is respectfully submitted that these claims are in a condition for allowance on at least the same basis. Claims 17 and 19-31 contain limitations similar to claim 2, and are in a condition for allowance for at least the same reasons as claim 2.

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CONCLUSION

In view of the foregoing, it is respectfully submitted that all of the claims pending in this patent application, as amended, are in condition for allowance. If the Examiner has any questions, he is invited to contact the undersigned at (503) 439-6500. Reconsideration of this patent application and early allowance of all the claims is respectfully requested.

Please charge any shortages and credit any overcharges of any fees required for this submission to Deposit Account number 50-3703.

Respectfully submitted,

Dated: 7/13/06

  
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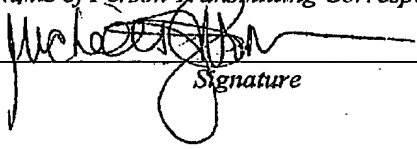
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